IN THE CLAIMS:

Please amend the claims as follows.

1. (currently amended) Monoatomic and monocrystalline layer of diamond type carbon, this layer being characterized in that it is formed on the surface of a monocrystalline substrate of SiC and extends closely over the totality of this substrate, said monocrystalline substrate of SiC being one of a thin layer of monocrystalline SiC in cubic phase β-SiC (100) formed on a platelet of Si or a platelet of monocrystalline SiC in hexagonal phase.

2. Cancelled.

3. Cancelled.

4. (previously amended) Monoatomic and monocrystalline layer according to claim 1, covered with a monocrystalline layer of diamond formed by growth from the monoatomic and monocrystalline layer, the latter acting as matrix.

5. (previously amended) Manufacturing process of a monoatomic and monocrystalline layer of diamond type carbon, this process being characterized in that one forms a monocrystalline substrate in SiC terminated by a carbon atomic plane according to a c(2x2) reconstruction, this plane being a plane of carbon-carbon dimers of sp configuration, and in that one carries out at least one annealing of this substrate, this annealing being able to

transform the plane of carbon-carbon dimers of sp configuration into a plane of carbon-carbon dimers of $sp^3$ configuration thus forming a monoatomic and monocrystalline layer of diamond type carbon.

6. (previously amended) Process according to claim 5, in which the SiC monocrystalline substrate is prepared from a thin layer of monocrystalline SiC in cubic phase ß-SiC with a face (100) terminated by a layer of Si.

7. (previously amended) Process according to claim 5, in which the SiC monocrystalline substrate is prepared from a monocrystalline SiC platelet in hexagonal phase with a face (1000) terminated by a layer of Si.

8. (previously amended) Process according to claim 6, in which, to obtain the atomic plane of carbon according to the reconstruction c(2x2), an annealing is carried out capable of eliminating the layer of Si.

9. (previously amended) Process according to claim 6, in which, to obtain the atomic plane of carbon according to the reconstruction c(2x2), a deposit of hydrocarboned molecules is made on the Si layer followed by cracking of these molecules.

10. (original) Process according to claim 9, in which the hydrocarboned molecules are chosen from among the group comprising the molecules of $C_2H_4$ and the molecules of $C_2H_2$.

11. (previously amended) Process according to claim 5, in which, to transform the plane of carbon-carbon dimers of sp configuration into a plane of carbon-carbon dimers of $sp^3$ configuration, one carries out an annealing or a plurality of successive annealings, at a temperature approximately equal to 1250°C, of the monocrystalline substrate in SiC terminated by the atomic plane of carbon according to the reconstruction c(2x2), the total time of annealing being greater than or about equal to 25 minutes.

12. (previously amended) Process according to claim 7, in which, to obtain the atomic plane of carbon according to the reconstruction c(2x2), an annealing is carried out capable of eliminating the layer of Si.

13. (previously presented) Process according to claim 7, in which, to obtain the atomic plane of carbon according to the reconstruction c(2x2), a deposit of hydrocarboned molecules is made on the layer of Si followed by a cracking of these molecules.

14. (previously presented) Process according to claim 13, in which the hydrocarboned molecules are chosen from the group comprising the molecules of $C_2H_4$ and the molecules of $C_2H_2$.